

FSA2002

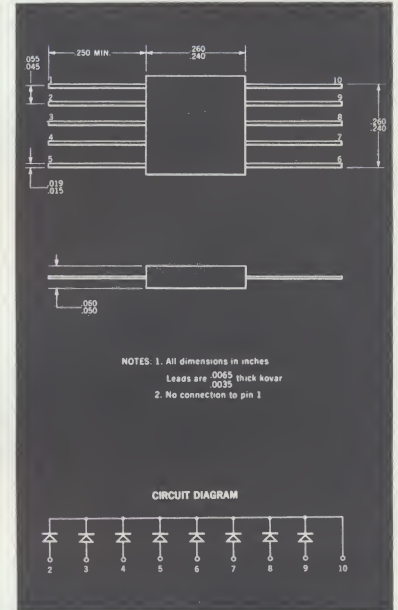
ULTRA FAST, EIGHT DIODE, COMMON-CATHODE ARRAY

SILICON PLANAR EPITAXIAL CONSTRUCTION

GENERAL DESCRIPTION - These Silicon Planar Epitaxial Diode Arrays were designed especially for high-speed core driver applications. They are hermetically sealed in a ceramic package. The excellent thermal conductivity of the ceramic permits operation to 400 mW.

MAXIMUM RATINGS (25°C) (Note 1)

WIV	Working Inverse Voltage	40 V
I_O	Average Rectified Current	250 mA
I_F	Forward Current Steady State DC	330 mA
i_f	Recurrent Peak Forward Current	800 mA
$i_f(\text{surge})$	Peak Forward Surge Current Pulse Width of 1.0 sec	500 mA
$i_f(\text{surge})$	Peak Forward Surge Current Pulse Width of 1.0 μsec	2000 mA
P	Power Dissipation	400 mW
P	Power Dissipation at 125°C	120 mW
T_A	Operating Temperature	-65°C to +175°C
T_{stg}	Storage Temperature, Ambient	-65°C to +200°C



ELECTRICAL CHARACTERISTICS (25°C Free Air Temperature unless otherwise noted)

Symbol	Characteristic	Min.	Max.	Units	Test Conditions
V_{F1}	Forward Voltage		1.50	V	$I_F = 500 \text{ mA}$ (Note 2)
V_{F2}	Forward Voltage		1.20	V	$I_F = 300 \text{ mA}$ (Note 2)
V_{F3}	Forward Voltage		1.10	V	$I_F = 200 \text{ mA}$ (Note 2)
BV	Breakdown Voltage	60		V	$I_R = 100 \mu\text{A}$
I_{R1}	Reverse Current		100	nA	$V_R = -40 \text{ V}$
I_{R2}	Reverse Current ($T_A = 150^\circ\text{C}$)		100	μA	$V_R = -40 \text{ V}$
C	Capacitance		3.0	pf	$V_R = 0, f = 1 \text{ Mc}$
t_{rr1}	Reverse Recovery Time		25	nsec	$I_F = I_R = 10 \text{ mA to } 200 \text{ mA},$ $R_L = 100 \Omega, \text{ Rec. to } 0.1 I_F$
t_{rr2}	Reverse Recovery Time		90	nsec	$I_F = 300 \text{ mA}, I_R = 60 \text{ mA},$ $R_L = 100 \Omega, \text{ Rec. to } 20 \text{ mA}$
V_{FM}	Peak Forward Voltage		5.0	V	$I_F = 500 \text{ mA}, t_r \leq 10 \text{ nsec}$ (Note 3)
t_{fr}	Forward Recovery Time		40	nsec	$I_F = 500 \text{ mA}, t_r \leq 10 \text{ nsec},$ (Note 3) Rec. to 1.6 V

(See notes on back page)

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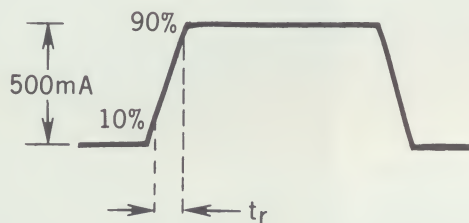
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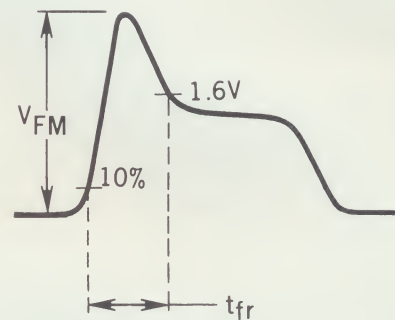
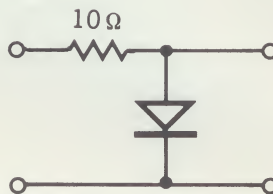
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NOTES:

- (1) Ratings apply to individual diodes. For multiple diode operation, total power must not exceed power dissipation rating listed.
- (2) Pulse Input Current - Duty cycle less than 1.0%.
- (3) Test Circuit for V_{FM} and t_{fr} is as shown below:



INPUT CURRENT PULSE



OUTPUT VOLTAGE PULSE

FSA1411

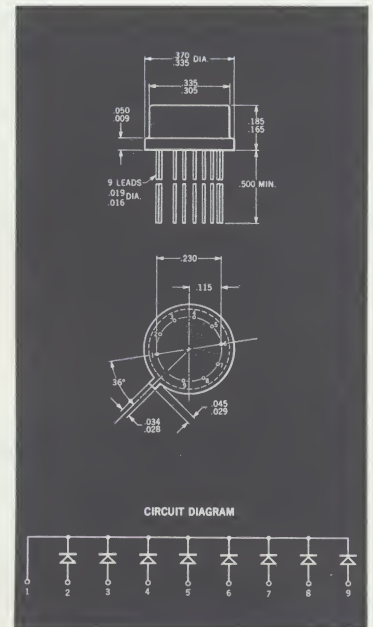
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SILICON PLANAR EPITAXIAL CONSTRUCTION

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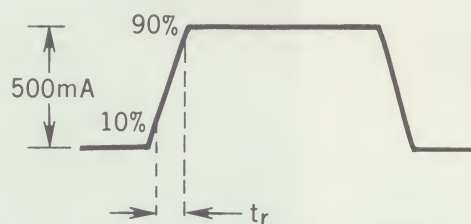
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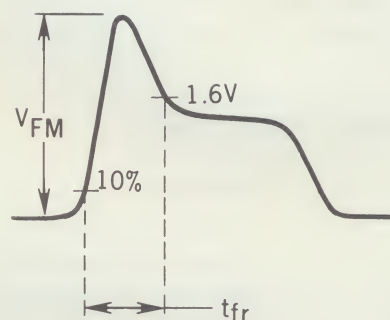
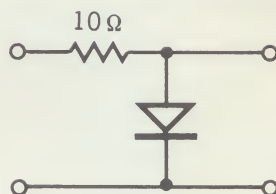
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